JARBIDGE RIVER BULL TROUT RECOVERY TEAM
Draft Meeting Summary

Dates and Times: February 22-23, 2006; started at 8:30 a.m. on 2/22 (Pacific time) and ended at ~12:00 p.m. on 2/23.
Location: Bureau of Land Management conference and computer rooms, Elko, Nevada
Team Members Present: John Elliott (NDOW-Elko), Jim Harvey (USFS-Sparks; *2/22 only*), Rich Haskins (NDOW-Reno), Gary Johnson (NDOW-Elko), Maija Meneks (USFS-Elko), Chris Reighn (FWS-Boise), Rob Ryan (IDFG-Jerome; *covering meeting for Doug Megargle*), Laurie Sada (FWS-Reno), Melissa Schnier (BLM-Burley; *2/22 only; last RT meeting due to job transfer*), Selena Werdon (FWS-Reno)
Team Members Absent: Tim Burton (BLM-Boise), Tim Dykstra (Duck Valley Shoshone-Paiute Tribes), Doug Megargle (IDFG-Jerome)

AGENDA

The following agenda items are addressed in detail further below:

1) Review, modify, and agree on agenda, including starting and ending times.
2) Provide/receive updates on assignments from January RT meeting.
3) Discuss field season 2006 activities:
   I) Prioritization of on the ground implementation actions.
   II) On the ground implementation actions.
   III) Research and monitoring activities.
4) Revisions to threat table.
5) Recovery plan revision – who is going to do what and when?
6) Population survey methods.
7) Plan stakeholder meeting for March/April.
8) Establish location, date, and draft agenda for next (March) RT meeting.
9) Assess meeting.

Other items not from agenda:

10) Stakeholder involvement.
11) Other miscellaneous.

1) *Review, modify, and agree on agenda, including starting and ending times.*

Added a couple of items.

2) *Provide/receive updates on assignments from January RT meeting.*

See Attachment #1 at the end of this document.

3) *Discuss field season 2006 activities.*

I) Prioritization of on the ground implementation actions:
-Stakeholder/landowner agreement.
-Benefit to aquatics – especially spawning and early rearing.
-Cost.
-Feasibility.

II) On the ground implementation actions:

A) EF Jarbidge Road maintenance on Idaho portion – Harlan information Melissa – presented photos on EF road problems. Solicited ideas on resolution. Site-specific plan for addressing issues.

Maybe use FS hydro that worked on WF Jarbidge road issues/resolution. Establish communication with Harlan and FS crew working on WF road.

Opportunity to reduce negative road effects on the EF while FS equipment is on site.

Help Harlin get in touch with FS road crew to learn about fixes. Ie. In-channel boulders resulting in erosion of the steep sloped road fill. Potential revegetation and/or riprap fill areas. Harlin is very interested in doing something, and hopefully it is the right something, which is why he has contacted Melissa (RT member).

Selena – Call Interfluve to discuss what to do, how and where.
Cost? Interfluve - ? Road work itself - ?
FWS funds? In Idaho. County road – taken jurisdiction from BLM.
What is needed for NEPA, ESA, etc.?

Laurie – contracting issues – sole source or 3 bids? CESU with colleges – 15% overhead w/ MOU already set up. Bull trout experience? ASAP.

B) Discuss Brackett proposal –
Tim B. not present – postponed.

C) Pole Creek proposal lead – Maija

Wells Ranger would like it to be done this year. FS doing under CE. Archeology and plants are potential issues – FWS will do surveys. Plant survey = 1 day – 3 to 5 miles of fenceline = 8 miles walking.

Other issue Wildlife BE – biologist is on detail to Vegas. Wells Ranger may provide wildlife person to do BE.

Maija – Talk to Wells Ranger to find out if he can provide wildlife person to do BE depending on priority.

Maija – to get list of fence materials/supplies to Selena. Plan is for permitee to install.

Change in grazing strategies – what effect might that have to aquatic resources?

D) Dave Creek juniper thinning –

Melissa - updated awareness of members that this project is occurring. Cut trees – going through consultation w/ Boise and Reno. Aspen regeneration desired. Riparian juniper felled/girdled = increased instream large woody debris.

E) Jarbidge demo project – education, kiosks, restoration, etc.

Selena - North side of town. – county/private owned (blue house). No pools, riparian, wood, etc. Talk with county, stakeholder, and private landowner.

F) Brook trout population monitoring in EF wilderness –

Accomplished through basinwide electrofishing.

G) Monitoring and enforcement – through creel survey?

Follow up in RP.

H) Stabilize reach near mine – WF, between wilderness and EF.

Selena - Dependant on results from sample analysis. Samples taken in low flow (October). Maybe need sample from other time. Work with landowner too.

Selena – work with Damian to determine if contract for more thorough analysis is needed, regardless of grab sample results.

Selena – contract bank stabilization and channel restoration. Hope mine analysis doesn't show anything so channel restoration work can be done.

I) Check Buckaroo diversion for bull trout upstream migration during appropriate time.

Rob – Work with Jeff Dillon (IDFG in region where diversion is located). Find out if bt are wintering below the diversion? Are bt moving to the diversion during their upstream spawning migration? Mid-March through end of April (based on Arrowrock Reservoir migration studies).

J) Little Island Creek – fencing – BLM

Burton – RMP or contract? BLM/private to keep out of Morgan draw?

K) Address grazing issues identified in Maija's review, includes Jack Creek.

Grazing recission is an issue. FS/BLM currently obligated with RMP and FS rescission, include FS/BLM enforcement. Other sources of funding are available for future work. Too many issues currently to make much RT progress at this point.

Maija – work with Tom (FS range con) to get site-specific grazing issues we could address with funds – federal or private ground. – earliest would be 2007.

Burton – work with local BLM range con for site-specific grazing issues we could address with funds – federal or private ground.

L) Fix road (ATV) crossing in upper Jack Creek.

Maija – FS travel mgt plan – likely not a system road, therefore, can't spend $$. Maija needs to check the FS mgt plan to determine.

M) Buck Creek (currently unoccupied) – for all three of these, site visit is needed then subsequent actions identified.

Work with Simplot re: corral in riparian.
Burton – keep this in mind when contacting range con for projects.
BLM immediately downstream.

N) Road maintenance – work with Elko County.

Burton – to check out.

O) Survey culverts to assess passage barriers.

Maija to do in 2006.

P) Norman mine – **not high priority**, but might be nice to sample during spring w/ overland flow.

Maija - working w/Selena to get sampling stuff.

Q) Outfitter information/education – EF wilderness
Not current spending (? What does this mean?). Needs coordinated outreach effort. Don't know who would take the lead. Selena - Stakeholder meeting – strongly invite Lowell and other outfitters there.

R) Bear Creek brook trout reduction.
Gary – yes – August. Would also use other crews if possible, including basinwide electrofishing crew.

S) Presence/absence survey in Marys Creek.
Chris – tribal coordination – work with Tim D. Coordinated crews. No real funding issues.

T) RT raft trip to assess conditions in lower Jarbidge and Bruneau River Foraging, Migration, Overwintering (FMO) habitats.
Burton – coordinate for reconnaissance trip – passage, grazing, etc. No one has been on this reach. Get cost and timing.

U) Dave Creek – research to determine volume of diversion (on springs).
Not contracting. Burton – check ongoing activities BA, etc. to determine rate of diversion.

V) Landowner coordination on Dave Creek to get channel back to normal channel at crossing.
Approach Brackett about resolution. Contract to do work? Chet was supportive, but new land owner now. Wait a little bit to find out status of acquisition.

W) Slide Creek trail stabilization.
Wait for new hire w/ FS.

III) Research and monitoring activities – see item 6 below:

4) *Revisions to threat table.*

Team discussed proposed modifications (not many) to the table and provided clarification as to what the table is and how it is supposed to function. RT also filled in areas of information/clarification of items that were previously lacking. New version of threats table was emailed to RT by Chris on 2/28/06. (See Attachment 2).

5) *Recovery plan revision – who's going to do what and when?*

Chris will send out assignment (re: pick parts and take responsibility) to RT. Rich to talk with Bob W. regarding urgency for completion of RP. Goal: We need to provide a draft to CNO/Portland (FWS regional review) prior to field season, so it can be out for public review during field season.

6) *Population survey methods.*

Thurow *et al.* (2006) – Discussion occurred regarding the utility of snorkeling vs. electrofishing. Unresolved. Hopefully will be addressed by further inquiry by Rob and Chris with researchers.

Chris to talk w/ Tim Cummins/Dunham/Rieman/Gusevich (FWS/FS research) regarding devising a methodology to address our objectives. Total abundance and habitat conditions (characterization).

Population survey is related to habitat characterization. Some sort of habitat survey (quantity and quality) needs to be included in population survey methodology.

Presence/absence on some of the unoccupied streams? Deer Creek (priority) and Buck Creek most likely – could be done after August 15 since likelihood of spawning fish present is low. P/A less of a priority than the occupied tributary survey.

Concern regarding protocols addressing listed objectives (from draft statement of work that included telemetry):
Telemetry associated objectives may be addressed in 2007, but will not be included in the statement of work for activities to occur in 2006.

Include visual implant tags? – needed? – color coded? Etc.?

Duration - Weir – at least 2 years. Subsample of tributary survey to assess trend?

7) *Plan stakeholder meeting for March/April.*
Feb – March - too early for stakeholder meeting. Jarbidge will be location – likely in June. See notes on assignments.

8) *Establish location, date, and draft agenda for next (March) RT meeting.*
Will be provided to RT under separate email.

9) *Assess meeting.*
Have facilitator be more organized.
Provide team members written materials prior to meeting.
Having a copier at the meeting location is nice.

10) *Stakeholder Involvement:*

Next stakeholder meeting –

Next month (March) is too soon. April may also be too soon. Should be in June at Jarbidge.

Selena - Highlight/summarize meeting notes and distribute to stakeholder.

11) *Other miscellaneous*:

Selena – Host on RT web page on Reno FWS website. Work with Jason.
Rich – work with Selena to get a link to FWS site on NDOW's site. NDOW sagegrouse – good template.

ATTACHMENT #1

ASSIGNMENTS

OLD assignments were developed at previous meetings and have not been completely resolved. Work on these assignments should also occur prior to our March meeting.

NEW assignments were developed at the February 22-23, 2006, Recovery Team meeting. Some of these assignments are due before the next meeting, and the team will be briefed as to progress and steps taken at the March meeting (see note regarding asterisk below). Note: New assignments (below) with an **asterisk (*)** are high priority assignments that need to completed **well BEFORE March 28-29** due to their time sensitive nature (need to get a contractor ASAP, before they are too booked for the season).

All assignments are due and/or will be discussed at the March 28-29 Recovery Team meeting in Elko.

REPORT ON OLD ASSIGNMENTS: *Follow up on assignments developed at Recovery Team meeting on January 24-25, 2006 (Agenda Item #2).*

- **Rich** - Follow up (determine the possibility of changing) on temperature/water quality standard for Nevada portion of system. Current standard is not suitable for bull trout? 15 C is generally the standard for bull trout. There is not clear understanding of what the state standard really means for triggering and what happens then? Regulatory influence?

  2/2006. Nothing to report.

- **BLM** (?) – Baseline, combining existing information with what new is needed. 2/2006. Burton not present. Melissa gave short update – got temps funded through Sept 2006. Currently looking for stuff for RMP. This info will be passed to team by Tim. Maybe more coordination between temps and Burton to make sure bull trout gets captured. Tim will be provided team info to RMP folks.

- **Selena** - WF Jarbidge River mine samples assessment.

  2/2006. Samples not sent in yet. Damian (Reno FWS contaminants) is submitting the samples to Sierra Environmental. Funding is already set.

- **Tim D.** – Determine likelihood of Tribal Council approval to survey Marys Creek for bull trout in the Bruneau basin on SPT Reservation.

  2/2006. Chris – left message with Tim D. Tim D. not present at February meeting.

- **Tim B.** - Double check proposal from Burt Brackett – riparian pasture – in settlement on lawsuit (no grazing on allotment – no fences to keep cows off BLM ground,

therefore, not currently grazing private land) Currently, doing something different might result in not following the settlement. – BLM is not doing anything with the proposal at this point. Proposal to the RT should likely come from BLM rather than Burt himself. Maybe not appropriate for RT to address this proposal since BLM/settlement have current jurisdiction.

2/2006. Burton not here - Postponed to March meeting. Melissa, if RT sees something good in proposal than RT should let BLM know. See what Tim says about it next month.

- **Selena** – Attempt to establish someone as a stakeholder representative for participation in the February and subsequent technical team meetings.

  2/2006. To be done soon.

NEW ASSIGNMENTS: *developed at the February 2006 meeting*.

- ***Rob** – talk with Kevin Meyer (IDFG Research) – 1) describe pop estimate in general, 2) station frequency, length, # passes (depletion ratios), 3) tagging, 4) snorkel subsampling and comparison at how many sites – to determine trend, 5) sampling scheme for uneven distribution - clumps. Interested in anything else he has input on. **To get back to Chris within a week**.

- ***Chris** – explore similar technical expertise, as Rob is doing, with the FWS bull trout research, monitoring, and evaluation group (RMEG).

- *** Gary -** Provide Rob map relative BT density, trib length – **ASAP**.

- ***Tim/Chris –** Develop statement of work – incorporate Rob's and Chris' information from researchers and send out to Recovery Team before **March 10.**

- ***Selena/Laurie (Reno FWS) -** Initiate contacts with potential contractors. Use information (statement of work, etc.) developed prior to March meeting to inform potential contractors of what's needed. Assimilate contractor bids and award a contract (or at least get a commitment from a contractor), **prior to the March meeting**. Goal – try to keep it clean and neat – ie. one contractor.

- **Maija** - incorporate info (re: 2003 survey grazing/riparian conditions in Deer Creek – check USFS 2003 survey in Buck, Dave, Deer, EF Jarbidge, etc.) into threats table using track changes. Then send to Chris. At the March meeting, Chris will project Maija's proposed changes to the threats table, and the team will determine which changes are appropriate. If the team does not want to take time to do this (~10 minutes) then we can decide to accept all changes proposed. This will be decided at the meeting.

- **Maija** - Passage assessment for BLM and FS lands in 2006. Maija can get that done. Harvey can not. Gary interested in being involved too. BLM involvement?

- **Jim** – will provide FS (and BLM?? – Burton??) crossing locations (in Buck Creek?) to Maija prior to field season.

- **Gary/Rob** – Angler survey - form development – to be distributed among all field goers – Gary to do draft and work with Rob (IDFG) finalize.

- **Gary** - to provide angler box design to IDFG.

- **Jim** - pursue FS wilderness sign in box at wilderness in 2006. If fished, method would be helpful information.

- **Gary/Rob** - Send out bait fishing literature and survey results (which ones?).

- **EVERYONE** - Provide Gary UTMs for locations where past thermograph information has been collected. Gary only wants that info he doesn't already have, but verbally check w/ Gary to make sure he has it if you are unsure – **prior to March meeting**.

  Determine locations for thermograph placement in 2006 – this will be done at the March meeting, but come prepared to provide your input.

  Additional thermograph information from February meeting:
  Locations discussed:
  Gary: Buck Creek, just below Jarbidge, Bruneau, Slide Creek, mainstem Jarbidge, replication other past sites (upper Robinson -2 years, upper Pine – 2 years, WF 1st bridge above Jarbidge – 2 years), Dave Creek – up, middle, and downstream, etc.

  BLM list of sites – in ongoing activities BA.
  Tim B. - Bruneau below Jarbidge – spring to fall, Buck Creek
  Gary - Dave Creek – up, middle, and downstream, etc. and hopefully on Burt Brackett's. Selena to work with Burt, Slide Creek.

  IDEQ – Clyde Laye – wants involvement on team – Twin Falls – could be involved in thermograph and other activities.

  Jim – FS land on Buck Creek.

  Selena and Tim B.? – Work with Twin Falls BLM to get BA/thermograph stuff done since Melissa is leaving.

  Weir locations should have thermographs.

- **Gary** – prepare map/figure for discussion of thermograph locations to occur at the March meeting.

- **Rob** - Send Clyde Laye (IDEQ) email address to Chris. Clyde wants involvement on team – Twin Falls – could be involved in thermograph and other activities.

- **Chris** - Work with IDEQ for RT involvement. RT desires IDEQ involvement.

- **Jim** – Provide instruction/papers to ensure consistency in methods, intervals, etc to all for collecting thermograph information.

- **EVERYONE** - At the March meeting, come prepared to discuss how temperature information collected in the past will compare to methods determined for 2006.

- **Selena** to work with Jim to contact Parametrix to contract this work - WF Jarbidge road/channel assessment - Jack Cr. downstream to forks - assessment with same Parametrix methods as used for WF from Jack Cr. to wilderness. Cost?

- **Jim** – check with FS contracting officer re: Parametrix and WF Jarbidge survey. Get back with Selena.

- **Selena** - Highlight/summarize meeting notes and distribute to stakeholder group.

- **Selena** – Host on Reno FWS website. Work with Jason (IT).

- **Rich** – work with Selena to get a link to FWS site on NDOW's site. NDOW sage grouse – good template.

ATTACHMENT #2

THREATS

Presented as modified on February 23, 2006, at RT meeting; plus information provided after the meeting from USFS.

DRAFT WORKING DOCUMENT – This document is a work in progress. This is NOT a stand alone document. The intent of this document is to help guide revision of the Recovery Plan. Inconsistency in wording and incomplete thoughts/discussions could result in concerns from readers.

Threats in the draft recovery plan (2002) and the original listing (except for the canyon road) were broad and essentially could be applied to the species range wide. The RT has learned more information regarding existing threats to Jarbidge bull trout since the listing in 1998. The RT has attempted to capture current threats information in the table below and plans to incorporate this information into the revision of the current draft recovery plan.

Magnitude calls in this draft were subjective (best guesses based on team members input and experience) and subject to modification in the future based on new information gained (field verification).

The five original listing factors were:

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

B. Overutilization for commercial, recreational, scientific, or educational purposes.

C. Disease or predation.

D. The inadequacy of existing regulatory mechanisms.

E. Other natural or manmade factors affecting its continued existence.

These categories were used to identify/update threats as the RT knows them currently.

NOTES AND DEFINITIONS:

Threats - for this exercise are defined as: any impact or condition that may have an influence on the long-term persistence of bull trout. The sum of these threats/impacts is what should be used to assess the long-term persistence of the species.

Magnitude (in table below) - addressed the extent to which the impacts are affecting the local population. Some magnitude calls [primarily those in FMO (Foraging, Migration, and Overwintering) habitat] are based on the DPS-wide potential impacts. In cases where the magnitude call is DPS-wide, it is noted. Magnitude is not known for some

areas due to the lack of information, primarily amount and location of use by fluvial bull trout. I.e. magnitude could be greater or lesser depending on bull trout use.

Any resident population could have a migratory component.

KEY (to highlights in table below):
Text in yellow = unknown – answer may be available from literature.

Text in green = unknown – answer likely not available anywhere – unknown forever.

Text in red = unknown - survey work may answer.

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	DRAINAGE-WIDE			
Isolated and small (synchrony)	Rieman 1993 and others - demographics	Magnitude: high/significant – DPS wide – low likelihood. A large fire covering entire area at high severity is unlikely based on terrain and noncontiguous fuels. Fire history suggests similarly. Severe fire in a stronghold is especially a concern.		Address all others factors control over as much as po Make things as secure as p Work with land mgt agenc address areas of high risk t BLM – RMP. USFS – wildland fire plans proactive activities are in J and in canyon (Sawmill Ri
Metapopulation - distribution	6-8 local populations currently – evenly distributed including both elevation and distance. They are connected. Should be broadly distributed. Dunham and Rieman (1999) – conservation should include concept of strongholds.	Magnitude: moderate (based on Rieman and McIntyre *in* draft recovery plan) Steepness of habitat is inherently limiting distribution.		See actions for potential st (Dunham)– Pre-fire mgt pl oriented to strongholds and minimize effects of suppre activities.

Abundance (# of spawning adults)	>1,000 spawning spawning = effective pop size (from Rieman and Allendorf 2001?) BT population is low/limited. This may not be possible here due to inherent habitat/occupied area not being large enough.	Magnitude: unknown All cold water habitat suitable for juvenile rearing is occupied. Only small portions are not occupied. Unknown how many more bull trout could be produced. Carrying capacity of habitat is not known to be fully seeded. Genetic issues. Unknown if bottlenecks or inbreeding are occurring.		Determine current populat strength and areas used – 1 survey is the best we curre Maximize potential to incr populations/abundance – I all others factors we have over as much as possible. Make things as secure as p Genetics – collect and ana samples.
Presence/abundance of migratory life history form (Rieman and McIntyre 1993 and Rieman and Allendorf 2001)		Magnitude: unknown. Currently known to be present, but abundance is not known, but believed to be relatively small.		See above for survey need
Thermal limitations	The vast majority of habitat in the basin is not thermally suitable (seasonally – early rearing) for bull trout.	Magnitude: definite limiting (constraining) factor on juvenile distribution. HIGH? (southernmost extent of the species range)		Continue to look for and a anthropogenic influences temperature. Temperature monitoring. Not much else we can do, factor is inherent (elevatio canyons, southernmost ext

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	WF JARBIDGE -WILDERNESS			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	No			
Livestock Grazing (a and e)	No		Unknown - FS watershed assessment – altered watershed condition may have resulted in accelerated debris flow and altered channel morph. 300k sheep in early 1900's.	
Transportation Networks (a)	No		Minor – roads used to be there but were not stream -gutting.	
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No		Unknown – associated with timber harvest–	

			Sawmill Creek	
Mining (a)	? – no results from Norman mine -no samples from cabin downstream	Magnitude: unknown - not tested – Norman mine is so far from live water and there is no apparent drainage – not being tested.	Unknown - Legacy or current	Not high priority to sampl might be interesting to see happens in spring with ove flow.
Residential Development and Urbanization (a)	No			
Recreation (a)	Yes	Magnitude: insignificant – overland transport of sediment not occurring. Minor trail crossings		

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	EF JARBIDGE - WILDERNESS			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	No			
Livestock Grazing (a and e)	No	Insignificant – trespass is all.		
Transportation Networks (a)	No			
Harvest (b)	No			
Nonnative Species (e)	Yes	Magnitude: unlikely to occur, but risk of hybridization to bull trout with high impacts. We do not want Bkt to happen!		Keep tabs on this Bkt pop future. Collect BT genetic (near E

		Issue is human transplant. Bkt in Emerald Lake – detached ~1 mile from EF Jarbidge – been in since 1940 – never been surveyed in EF creel and other surveys (Gary) - possible, but not likely to be get into EF via human transplant. However, there are other easier areas to get Bkt to transplant.		samples for baseline inform assess over time the occur hybridization. Education for outfitter on for BT impact.
Forest Management Practices (a)	No			
Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	No			

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	MAINSTEM JARBIDGE – BELOW FORKS			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	Maybe Yes, but there is not a clear understanding of	Magnitude: water quality standard is not necessarily the issue, but temperature certainly is an issue basinwide. Relevant to unknown future projects.		Nevada DEP – continue to DEP info – to help motiva development of TMDL.

	what the state standard really means for triggering and what happens then? Regulatory influence?	Idaho has statewide standards. Idaho DEQ does not have standards yet. Coming in 2007 – TMDL. Temperature is the only issue we are aware of.		Idaho – trying to meet EP guidelines, but we can pro comment/input.
Livestock Grazing (a and e)	No	Not much access – steep/cliffy.		
Transportation Networks (a)	No			
Harvest (b)	No	Not enough access.		
Nonnative Species (e)	No			
Forest Management Practices (a)	No			
Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	No			

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	WF JARBIDGE –WILDERNESS TO EF			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	See above	Magnitude: see above Nevada standard – 21^0 C standard May –		Rich to follow up on NV's Depending on investigatio determine more actions.

		Oct – Not nearly as protective as Idaho – 14 or 13 ^{0} C for similar period – specific to WF Jarbidge.		
Livestock Grazing (a and e)	No		Similar legacy as WF wilderness.	
Transportation Networks (a)	Yes	Magnitude: overall amount may not be an issue, but specific areas may be affected. We have an issue (there is an effect on the aquatic systems), but may/do not agree on the magnitude. We agree on actions to be taken. <u>Temperature</u> – most shade is provided by orientation/canyon – loss of vegetation due to road placement is not thought to have had a significant influence on temperatures in this reach. <u>Sedimentation</u> – being delivered to the channel – pebble count WF very low fines in pebble counts (transport reach – b/a/some small stretches of c) – fines are likely not an issue, however geomorphic structure could be as a result of the road. Forage fish species are present and abundant. <u>Channel morph</u> – magnitude: unknown – believed to be fairly high? To be modified based on below. It may or may		Determine locations used f overwintering. – then asse used and complexity of su (sedimentation) - Jim to l R1/R4 survey completed a and (Phifer – shovel metho Road actions: Better implementation of F Jim – USFS new road mgt should resolve many issue associated with road. Population response would assessable until multiple g (10 years or more) from implementation.

		not apply to all areas equally. FS reports might be a good source for magnitude info – these reports resulted in thousands $$$ spent on the road. – EIS and Evans. Fines are likely not an issue, however geomorphic structure could be as a result of the road. Lack of floodplain function/riparian, etc. Road has channelized/constricted stream in areas – reduced pool frequency/quality, reduced input of wood as a result of the existence of road. -9,000 meters of road berm is within 25' of stream channel (only Jack Creek to Pine Creek) -11.5 miles (~1/2) of stream has road adjacent to it. Portage Environmental Evans (2002) – WF higher anthropogenic sources of sediment. Burton – pool quality (only in EF) – lots of sand upstream of Murphy Hot Springs. Road maintenance – threats from spills, chemicals, accidents. Fragmentation/connectivity – Jack Creek has been fixed. No other issues. Notes: 9,000 meters of road berm is		

		within 25' of stream channel. Only Jack Creek to Pine Creek.		
Harvest (b)	Unknown/possible	Magnitude: because of the low number of fluvial fish, any harvest could have a population effect. Gary - not documented to occur. Bait still legal Idaho & Nevada. Unknown survival of those caught and released. Dan Schill (IDFG) data – shows difference between single hook vs. double or treble hook. Fair amount (~40%) of current use is bait.	Nevada – daily harvest of up to 10 BT (pre-1998).	Continued monitoring/enfo especially areas of congreg creel surveys. Education – continue signa See draft recovery plan. Look into literature regard and mortality – and contin monitor to see if it is an iss Involve stakeholders/coun commissioners.
Nonnative Species (e)	Yes	Magnitude: see above for EF. Bear Creek – Bkt – occupy ~¼ mile of stream ~2 miles upstream from the treatment plant which is in lower Bear Creek. The Bkt population is mostly isolated (3 miles) from river, however, potential for transplant to other areas. Bkt may pass downstream of the treatment plant. Bull trout (all fish) are not able to pass upstream of plant. Bkt were stocked for 3 yrs heavily in WF and never took.		Gary- continuing Bkt remo ¼ mile (Bkt occupied habi
Forest Management	Yes	Magnitude: minor, but rate is increasing.	Similar to WF	Increase education and enf

Practices (a)		Boulder may be compensating for lack of wood formed pools (complexity). Illegal fuelwood use. More and more of a problem, especially recently. Maybe one person with many, many, many cords.	wilderness.	Designate areas for fuelwo gathering.
Mining (a)	Unknown – mining effluent – warm water from adits.	Magnitude: unknown. Chemical samples taken and being assessed. No thermal barrier. Potential chemical barrier? Channel modification – mine tailings and flood control. Limited reach. Magnitude: minor/low - < 2000ft. Water quality downstream effects – temp and unknown.		Chemical samples taken b assessed – further research depending on results. Stabilize reach and establi vegetation – private land.
Residential Development and Urbanization (a)	Yes	Magnitude: minor. Flood protection/channel alteration – short reach near town Diversions for lawn watering - magnitude: minor, no actions identified.		Potential for large pool de Potential concern for incre of bull trout being subject angling activity. Maybe li mine clean up activities on of the stream for stakeholder/community in

		Septic systems/fertilizer – magnitude: unknown. Evidence of stream nutrient enrichment not present.		
Recreation (a)	Yes	Magnitude: low – rocky substrate, little soil on bank ATV use (currently increasing), dispersed camping (hardening and veg removal), river = road.		Education – kiosks, etc. South Canyon EA USFS d calls for a motorized vehic restriction and barrier to b Urdahl Campground (abov Creek) There is the need/potential physical barriers to addres trails and vehicle access si (work with locals on their desire/interest). Related to mgt. Check on dump sites/well monitoring.

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	EF JARBIDGE – WILDERNESS TO WF			
Dams and Diversions (a)	No			
Isolation and Fragmentation	No			

(a)				
Inadequacy of Existing Water Quality Standards (d)	Same as WF.			
Livestock Grazing (a and e)	No	USFS (2003): Livestock use very low, primarily in vicinity of Robinson Hole. Grazing occurs, but not a recognized impact. Use of ford/xing just upstream from Murphy – BLM - no habitat difference between upstream and downstream.		
Transportation Networks (a)	Yes	Magnitude: low - Robinson Hole Downstream of Murphy Hot Springs - similar as WF for downstream of Jarbidge.		Highway district is interes better implementing BMP the WF – similar to WF.
Harvest (b)	Same as WF.			
Nonnative Species (e)	No			
Forest Management Practices (a)	Yes	Magnitude: minor. Some cottonwood harvest.		BLM RMP to include clos riparian fuelwood harvest.
Mining (a)	No			
Residential Development and Urbanization (a)	Yes	Magnitude: minor. Murphy – potential disposal of chlorinated water into river. Pool not functional now, but could be in the future.		Be aware of potential issue pool is reopened/used.
Recreation (a)	Yes	Magnitude: minor but growing.		BLM RMP to include clos areas to OHV.

		Dispersed site south of Murphy w/ fire rings. ATV's and cattle ford at this location. Robinson Hole too. Two campgrounds below Murphy.		BLM RMP to include mgt dispersed sites including th (Murphy).

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	BRUNEAU RIVER – mouth of Jarbidge to Buckaroo Ditch diversion			Survey Marys Creek for bu SPT reservation.
Dams and Diversions (a)	Yes	Magnitude: minor, but major if it occurs. Potential if bull trout are lost downstream. One – Buckaroo Ditch – complete barrier to upstream migration – good thing for bull trout. Bull trout may be lost to system if they go below the diversion. No reports of bull trout in CJ Strike reservoir or lower Bruneau River.		Fluvial radio tags – how lo go? Larger fish. Potential to check diversio upstream migrants during appropriate time (spring/ea summer?) Diversion waters up in mi
Isolation and Fragmentation (a)	No, but see dams and diversions above.			
Inadequacy of Existing Water Quality Standards (d)	Similar to above for Idaho. 13^0C for adult bull trout.			

Livestock Grazing (a and e)	Yes	Magnitude: minor. Buckaroo to mouth of Jarbidge – however access is restricted. Localized impact at Indian Hot Springs (~1 mile) – BLM grazing riparian standards are likely winter grazing.		BLM in Bruneau RMP wil
Transportation Networks (a)	No	Road to Indian Hot Springs – not an issue.		
Harvest (b)	No			
Nonnative Species (e)	No, but potential for.	Magnitude: minor – not likely that smallmouth bass would move into BT rearing areas, smallmouth bass are not active during BT FMO use. Smallmouth bass potentially could move up over Buckaroo diversion. Could result in predation of juvenile BT and competition for prey. Human introduction of warm water species above Buckaroo diversion is a concern.		Maintain upstream passag Buckaroo. Survey diversion canal if F observed to be below dive
Forest Management Practices (a)	No			
Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	Yes	Magnitude: minor. Indian Hot Springs – camp and soak in		Raft trip to assess impacts existing conditions.

		spring. Bruneau Hot Springs too. Limited dispersed camping (most on private inholding), rafting, kayaking, camping. Human waste.		

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	DAVE CREEK			
Dams and Diversions (a)	Yes	Magnitude: unknown, likely minor – stock water w/ almost no flow effect – 2 springs on BLM. Headwater spring diversions – permitee desires more – little island tributary.		No actions. Existing perm (water right) diversion. Research to quantify amou diverted. Then determine and if necessary, determin
Isolation and Fragmentation (a)	No	Genetic information: limited sample size. Shows Dave Creek distinct from WF Jarbidge.		
Inadequacy of Existing Water Quality Standards (d)	See EF.	No standard, but downstream does. Nevada.		
Livestock Grazing (a and e)	Yes	Magnitude: moderate. Forest, BLM, and private. Biggest problem is on private. 3 mile private section – late 90's severely degraded – channel wide and shallow, lack of riparian vegetation. 1 mile of USFS immediately upstream		Keep trying to buy the ran easement. Work with landowner (Bra improve mgt to improve st conditions. Survey private land habita

		from private land – extremely high potential for BT reproduction, but temperature regime is potentially an issue. USFS (2003): areas of cattle concentration in the mid-reaches, likely due to limited water access,. Bank trampling and trailing, occassionally heavy. No fine sediment concerns. Little Island Creek (trib to Dave Creek) – BLM – degraded by cattle grazing.		BLM should help address RMP. – Recovery team inp in how to manage grazing bull trout habitat. Little Island Creek – BLM fence. USFS to do range plan for headwaters of Dave Creek spawning season use restri
Transportation Networks (a)	Yes	Magnitude: minor. Road to private land – creek runs in road for ~.25 miles. Easy to fix.		Work with landowner to g into its natural channel (at
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No			
Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	No			

Threat/Impact	*Local pop. stream/*	*Magnitude/description of current*	*Legacy effects*	*Action(s) neede*

	current threat/impact	*threat/impact*		
	DEER CREEK			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	Nevada			
Livestock Grazing (a and e)	Yes	Magnitude: unknown. BLM – 1993 most recent survey– impacts presence then. Some bank trampling and concentrated in narrow canyon. USFS (2003): Riparian appears to be healthy and grazing use does not appear to be of concern. No big issues – Gary.		Update riparian survey of impacts – BLM Address any issues identif Maija's checking.
Transportation Networks (a)	Yes	Magnitude: insignificant Ford – associated with mineral exploration		
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No			
Mining (a)	No	No impact - exploration mine is on ridge - drilling holes.		

Residential Development and Urbanization (a)	No			
Recreation (a)	No			

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	JACK CREEK			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	Nevada			
Livestock Grazing (a and e)	Yes	Magnitude: minor – modify based on more info. USFS (2003): No grazing concerns. Selena – 2001 & (Jim 2003) – some impact in north eastern tributary – bank trampling – Gary – impacts not visible recently.		Go look at it again. Check USFS 2003 survey USFS to do range plan for headwaters of Jack Creek spawning season use restri
Transportation Networks (a)	Yes	Magnitude: minor USFS (2003): During stream survey, ATV trails and impact was noted at one headwater station. ATV crossing in headwater.		USFS travel mgt plan – ma address – both. Fix it! Make it not conduc spawning or something els

		Road crossing in spawning habitat on middle Jack Creek (just upstream from Jenny).		
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No			
Mining (a)	No	Exploration on Jenny Ridge.		
Residential Development and Urbanization (a)	No			
Recreation (a)	No	See ATV use above in transportation network.		

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	PINE CREEK			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	Nevada			
Livestock Grazing (a and e)	No			
Transportation Networks (a)	No			
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No			

Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	No	ATV use from over the top. Sparsely used hiking trail.		

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	SLIDE CREEK			
Dams and Diversions (a)	No			
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	Nevada			
Livestock Grazing (a and e)	Yes	Magnitude: minor, to be modified by literature review. USFS (2003) – overall, livestock use is not a concern due to fence preventing access in the Wilderness. However, headwaters show indications of concentration and chronic heavy use. Headwaters – upper ¼ mile – looked bad – bank trampling – at least 50%. Should be willow dominated, but is not currently – upstream of BT occupied.		USFS range NEPA should address. Recovery team proposal to mgt (Pole Cr C&H) and re utilization of riparian/tram

		Generally steep and rocky, therefore, is likely a transport reach.		
Transportation Networks (a)	No			
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No			
Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	Yes	Magnitude: minor. USFS (2003): during the survey, the hiking trail crossing near the stream mouth was noted to display long-time recreational impact, including streamside dispersed camping (and pack-stock?) use. Campgrounds and trails.		USFS - trail stabilization v proposal – Margaret, but n gone.

UNOCCUPIED	*NOTE*: Magnitude relates to habitat impact,			

STREAMS	not necessarily bull trout.			
Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	BUCK CREEK (Unoccupied)	General Buck Creek comments: BLM - greatest potential for bull trout – temperature regime is lower than other tribs even though it is lower in elevation. Habitat is physically good. 75% > 0.5 meters deep. LWD – good. Road along lower part of creek and grazed – high fines. Forest section not good either – grazing and fire.		
Dams and Diversions (a)	Yes	Magnitude: minor, diversions are small. Private land – not screened. Temporary push-up. One on BLM piece up higher.		Not concerns until BT are
Isolation and Fragmentation (a)	No			
Inadequacy of Existing Water Quality Standards (d)	Nevada, lower end in Idaho.			
Livestock Grazing (a and e)	Yes	Magnitude: moderate. USFS (2003): Heavy use, as indicated by bank tample, sloughing, grazing, and		Addressed through USFS rescission. Work with private landow

		riparian browse. Willow shape indicates chronic heavy use. High fine sediment loading. Corral in riparian on private land.		Simplot.
Transportation Networks (a)	Yes	Magnitude: moderate/high Road along lower 3 miles. Culvert at mouth, and culvert at 3 miles above – whether they are barriers is unknown. There are also other culverts.		Road maintenance/Elko co Survey culverts for passag and private. - USFS info in 2005, but not assessed. included BLM culverts.
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No	Wildfire – Coffeepot 1992.		
Mining (a)	No			
Residential Development and Urbanization (a)	No			
Recreation (a)	No			

Threat/Impact	*Local pop. stream/ current threat/impact*	*Magnitude/description of current threat/impact*	*Legacy effect/impact*	*Action(s) neede*
	ROBINSON CREEK AND JIM			

	BOB CREEK (Unoccupied)			
Dams and Diversions (a)	Yes	Magnitude: minor Jim Bob – concrete – barrier – no fish above – steep above, not suitable. Water quantity/temperature – makes it colder!!! – 1^0 C. .17 CFS – base flows 15% of Jim Bob and 5% of Robinson Creek. Lower Robinson unsuitable for BT $>50^0$F during summer.		None needed.
Isolation and Fragmentation (a)	Yes	Magnitude: Natural, therefore not assessed. Natural barriers in Robinson Creek (1/4 mile) ~1 meter high w/ no plunge pools – full/partial? All times of year? Redband present above.		None needed.
Inadequacy of Existing Water Quality Standards (d)	Nevada			
Livestock Grazing (a and e)	Yes	Magnitude: ??? USFS (2003) – Jim Bob Creek: livestock use in headwaters meadow is heavy. Impact may be occurring downstream, as well as locally.		USFS Pole Creek fencing address some of these spri associated grazing issues.

		USFS (2003) – Robinson Creek: survey only covered lower and middle sections of the creek. Overall grazing was light, with indications that more upstream areas may experience a heavier impact. The headwaters meadow was not surveyd. Headwaters of both in springs are degraded.		
Transportation Networks (a)	Yes	Magnitude: minor. USFS (2003) – Jim Bob Creek: during stream survey, greatest level of fine sediment impact was found downstream of a headwater road crossing. Cumulative sediment impacts with grazing likely. USFS - Robinson Creek: As of 2005, the Robinson Hole road crossing of Robinson Creek had failed. A new crossing had been pioneered downstream of the old ford. Headwaters of Jim Bob and one down to mouth of Robinson.		Not priority, but USFS sho consider as opportunity ari
Harvest (b)	No			
Nonnative Species (e)	No			
Forest Management Practices (a)	No			
Mining (a)	No			

Residential Development and Urbanization (a)	No			
Recreation (a)	No	Some camping. Rainbow gathering site.		

Fox Creek is small and steep (low flow). RBT only up 0.5 mile. Temps on the edge. No impacts to address.